COST *and* MANAGEMENT

THE OFFICIAL JOURNAL OF

THE CANADIAN SOCIETY OF
COST ACCOUNTANTS & INDUSTRIAL ENGINEERS

INCORPORATED 1920

HEADQUARTERS, 81 VICTORIA STREET, TORONTO

Telephone Elgin 8914

Vol. 6 MARCH, 1931 No. 3

CONTENTS

Page

STANDARD COSTS. J. A. Waterbury 66

NOTICE OF ANNUAL MEETING 66

FAVORS HUMAN AUDIT 74

BUDGETING CONTROL AND ITS RELATION TO BUSINESS FORECASTING. F. Richmond Fletcher 75

MEMBERSHIP CERTIFICATES 75

NEW MEMBERS 82

THE TREND OF PRODUCTION COSTS. W. A. McKague 83

BUDGETARY CONTROL IS BUSINESS NEED 90

CHAPTER NOTES 91

COST LITERATURE 95

A PROGRAM OF RECONSTRUCTION 96

Subscription price to non-members, $5 a year. Single copies 50 cents. Members desiring 5 copies or more of a single issue may obtain them at 25 cents each.

COST AND MANAGEMENT

Standard Costs

By J. A. WATERBURY,
Stevenson, Jordan & Harrison, New York.

(Before Toronto Chapter, February 4, 1931.)

AS standard costs have been the subject of several talks presented to your Society, this discussion may involve some repetition. We will, however, attempt to deal with the question of the value of standard costs from a management point of view, and the stabilizing effect on executive control, rather than describing the details of applying any special plan or system.

First of all, what are costs? We hear of actual cost, predetermined costs, standard costs and others until the head of an average executive actually swims with confusion, and quite naturally so. To one who has not made a definite and detailed study of cost procedures it is quite difficult to comprehend that actual product costs are quite rare, that often they are of little use, and that selling prices are very seldom if ever set on what may be truthfully called actual costs.

NOTICE OF ANNUAL MEETING

The annual meeting of The Canadian Society of Cost Accountants & Industrial Engineers will be held in Hamilton, Ont., at the Royal Connaught Hotel, on Friday, April 10th, 1931, at 5 o'clock p.m.

G. C. LEROUX,
Honorary Secretary.

W. A. McKAGUE,
General Secretary.

Further, when discussing the subject of costs, it is always necessary to know just what approach is being made. Costs of completed product are one thing, while costs of individual departments based on the performance of each department are entirely different. For instance, when a plant generates its own power, the cost per kilowatt hour should be known, and this has no relation whatever to the finished product. The indirect expense or "burden" of a producing department is often best measured by its relation to the direct or producing hours actually applied to manufacturing the product. But here again the measurement of this particular element or division of cost is figured, considered and controlled entirely aside from any consideration of what product is actually being made.

Should Be a Real Guide

In other words, costs should be so arranged that they serve as a real guide, both to the foremen of departments who are directly responsible for the operations as well as to the executive management

who must judge the efficiency shown by the various department heads. For this reason a cost which simply shows month by month what happened is of little use as compared to a scheme which shows how the actual monthly costs compare to a standard cost which should be reached. Therefore, standard costs may be regarded as the cost which should be reached under the condition or speed of operation which prevails at the time the work is performed. For instance, at 50% speed of operation, each or any one department should produce at a certain fixed or standard cost, and the actual cost compared to this standard gives the executive a trustworthy control of his organization.

The term "predetermined cost" is used very generally for the costs of all operations based on full or normal operation. This cost is the basis of setting selling prices. That is, in setting the selling prices it must be assumed that the plant is running at normal speed. Cost of idle plant and equipment cannot be charged to customers through selling prices, for the simple reason that customers will not pay such prices. Therefore, the term "predetermined costs" is usually meant to imply what the costs should be at a normal speed of operation.

Aid to Executive Control

Standard costs, or the costs of the various departments, with direct labor and direct material costs set on each product, furnish a stabilizing executive control which cannot be attained by any other method. Budget control is impossible of successful operation without standard costs; in fact, they are inseparable. It requires the standard costs at varying speeds of operation to furnish proper data for budgeting. And when this combination is effected, there is provided a control which eliminates guesswork and sets up instead a true measure of the accomplishment of every activity.

Another great value of standard costs is the feature of enabling the control of the costs of a multitude of products without continually figuring the cost of each product. For instance, in the paint industry the actual cost per hour of operating a group of grinders is found each month. The control of this cost per hour is the important factor. But during the month many different kinds of paint will have gone through these grinders, the standard time for grinding each formula being known. By using a standard cost per hour for the grinder (checked each month) times the standard time required to run each formula, the standard cost of grinding is known. The monthly work, therefore, consists simply of tallying the gallons of paint produced under each formula, extending each at the standard cost, the total of all being a credit to the group of grinders. This total credit for a year should approximately equal the cost of operating the group for the same period, and by matching these balances an executive control is provided at a very minimum of cost.

Comparison With Standards

The main point is that a stabilized executive control requires that performances be judged by comparison with trustworthy standards. It is no longer possible for an executive to simply pound the table and demand lower costs. He must provide the mechanism whereby stand-

ards are set, with everyone having a voice in their setting. When this procedure is followed, the matter of executive control resolves itself into a stable and effective leadership which produces results far beyond any other method.

The setting up of the procedures just explained are essentially in the province of someone who is thoroughly competent and experienced in such work and almost invariably must come from outside the organization. The tremendous importance of these controls admits of no experiment, as failure to properly set up such machinery is not only expensive, but in addition, may prove to be a detriment to the management in its future operations.

An important point to emphasize is that standard costs provide for measuring the operating effectiveness of groups or departments rather than dealing with the various individual factors of cost of each product.

Results reflected in operating statements disclose preventable inefficiencies in such a manner as to guide the executive directly to the seat of the trouble.

We find the standard hour plan of wage payment of particular advantage, as it lends itself to very considerable savings in the amount of work that would otherwise be necessary in the determination of variance, and in the analysis of variance, by making unnecessary the individual extension of standard value for each part or apparatus made.

Steps in Development

Development of a standard cost plan involves the following steps:

1. Compilation of Expense Standards.
2. Compilation of Standard Costs of Products.
3. Procedure for Handling Labor and Burden in Progress.
4. Method for Compiling Analysis of Cost Variation.
5. Forms for Statements of Manufacturing Operations.
6. Handling of Material Price Variance.
7. Routine on Finished Stock Inventory.
8. Profit and Loss Statements.

Standard Expense Schedules

The first step involves the preparation of standard expense schedules or budgets which must be compiled for all producing and non-producing departments. These budgets must be carefully and accurately set up after minute study of all items.

The plant management should review, check and revise these budgets, and the foreman should be permitted to pass on the standard proposed for his department.

In addition to the departmental budgets, which will cover only those expenses directly applicable to the operating departments, there are separate schedules for expenses of a general nature which are applicable to more than one department and must, therefore, be distributed in some equitable manner in order to complete the budgeting of all expenses of the plant. The basis of distribution may be as to number of employees, space occupied, or other plan which is applicable to the particular kind of expense.

An example of an expense schedule is given herewith.

Standard Costs of Products

The next step is the compilation of the standard cost of the various articles made. In order to arrive at the individual cost, we must have the standard time or piece-work rate for each operation. These standard times or rates are usually a part of the routine work of a time study man or other factory employee. The standard labor cost is predicated on the use of information developed through such records on some definite basis. Such information is usually recorded in some convenient form so that all operations or rates can be compiled on a detail cost sheet.

Having determined by the standard expense schedules the standard burden for a normal amount of production, the rate per hour or dollar of production labor is established as the standard burden rate for each department. The departmental rate, including all factory burden, is applied to the total labor or time required in each department to complete the manufacture of the product or item.

Materials are priced at a standard material price for each kind of material required, so that a complete standard cost of the item is made a matter of record.

When this work is once completed, it stands for a long time and will not be a part of the routine work, as the standard would not be changed unless some condition, such as a change in the design or methods of manufacture, made a change in the standard necessary.

Labor and Burden

The handling of the labor and burden in progress is the third step necessary. The labor and burden is usually charged to work in progress separately from materials. This makes it possible to eliminate from the "labor and burden in progress" account the variations in labor cost accumulated over a period, in order not to inflate the inventory with excess manufacturing cost and maintain the book value of the account at standard. Having determined standards of expenses and their relation to the labor, the performance of each department is determined by recording the production of each cost center or group at standard and developing the variations from this standard by comparison of the standard value of production with the actual expenses for labor and burden items. This is done periodically—in some cases weekly or monthly, or over some regular period, depending upon the particular custom of the plant. In many plants the actual labor cost is compared to the standard of labor for production each day of operation. In plants where the "allowed time" plan is used, this is a very simple process, and even in some plants where piece-work earnings are compiled daily, it is a simple matter to calculate the value of the production.

Variations from standards of labor will develop from time allowances, payment of day-work on piece-work items, or the payment of hourly labor rates above the standard fixed in the schedule.

Variations in material occur for two reasons: One, excess use of material; the other, purchasing at a price other than the standard. The purchase variation is usually determined at the time purchases

STANDARD EXPENSE SCHEDULE

Account Classification
b Fixed Charge per Month
d Fixed Charge per Hour Worked
e Fixed Charge per Week
f Distributive Charge
P Charge Varying with Prod.

Company..... Plant.....

Department .....

Standard Unit.....Stand. Units in Stand. Month.....

ACCOUNT		A/c Class	No. of Persons	Hours in Standard Month	STANDARD RATE		STANDARD COST	
No.	NAME				Amount	Per	Per Standard Month	Per Production Unit

are made, and the invoices are priced at standard, with the variations of material purchases computed separately and carried in a suspense account or inventory reserve. Variations of material used are determined by the issuance of the predetermined quantity of material from stores, and drawing on a requisition additional amounts required due to spoilage or any other reason, with notation on requisition as to account chargeable with the excess material.

In order to keep the records of labor clear, so they will not be inflated with extra time allowances, due to non-productive work such as rebuilding or salvaging, or experimental and development work on new products, a special record of extra time allowance must be made and the amount deducted from production, so as to maintain the labor cost, calculated at the standard for production, free of charges which are not directly attributable to the operations scheduled as a part of the standard cost of the product.

Cost Variation

The fourth step covers the compiling of an analysis of cost variation. This form must provide for a column indicating the standard or base budget allowance for each factor of cost in each department. This column is just a copy of the standard expense schedule. The second column provides for the entry of the standard of each item for the amount of production in the period covered by the statement. This amount is determined by the ratio of actual production to the budgeted standard. By taking the column of productive units, whether dollars or hours, and comparing with the actual units produced or hours worked, we determine the ratio between the actual and the standard, and the figures appearing in the column of standards for production will be the percentage of the budgeted rate. These calculations are indicated at the upper left-hand corner of the sheet.

In certain clases of items where the amount of time worked is a factor of the standard, columns must be provided to indicate the standard amount of time and the value of the actual time at standard, also a column to indicate the time worked or quantities of materials used and the standard rate or price.

The sixth column would indicate the actual production or quantity at standard, meaning the standard rate allowed in the expense schedule. In the seventh column, which would complete the left half of the sheet, would be the actual expenses under each account for the period. In the next column, being the first in the right-hand section of the sheet, which would cover the detail analysis, would appear the total increase or decrease between actual expenses and the amount allowed for production.

Having indicated the account classification opposite each item, we are enabled to determine the variation of fixed charges, whether due to idle time or productive efficiency. The difference between the standard for the time actually worked and for the hours possible for the period would be the variation due to idle time. The difference between the standard for production and for the time actually worked would be productive efficiency. The analysis of labor variations would be classed between the factor of time worked and rates of pay.

COST AND VARIATION SHEET
(Left Half)

Mill.....

DEPARTMENT HOURS
PRODUCTIVE UNITS
RATIOS

ACCOUNT	ACCOUNT CLASS	STANDARD COSTS					Actual Hours Worked or Quantity Used	Std. Rate or Price	Actual at Standard	Actual Expenses
		FOR STANDARD		For Production	For Hours Actually Worked	For Hours Possible in Period				
		No. or Qty.	Amount C	H	E	D			B	A

COST AND VARIATION SHEET
(Right Half)

Department.....

.....Ending.....

ANALYSIS OF COST VARIATIONS

NET INCREASE OR DECREASE	FIXED CHARGES		LABOR		MATERIAL		Supplies Used	Repairs Made	Distr't've Charges	Miscel.
	Productive Efficiency	Idle Time	Time	Rates of Pay	Quantity Used	Prices				
H-A	H-E	E-D	H-B	B-A	H-B	B-A	H-A	H-A	H-A	

Material variations are indicated as to whether due to quantity used or price.

Other factors of burden will vary according to whether due to supplies used, repairs made, distributive charges and miscellaneous items.

With this information set before the foremen and key men of the manufacturing plant, as well as the higher plant executives, a very clear picture of the operating results is shown, and it is a very simple matter to determine the source from which unfavorable variations are developed, or to see where it is possible to take advantage of favorable variations.

Practically all of the detail required to maintain this part of the routine is available in most plants, and if such is not the case, it does not require a very cumbersome routine to record the information necessary.

Operating Statements

From these cost variation sheets the operating statements can be compiled which will indicate the performance of each department, which is really a summary of the cost variation sheets, and the total of these factors for the plant will be recorded on a yearly operating statement showing the accumulated variations.

The handling of these variations is a matter of accounting practice, some firms preferring to charge the variations off as a manufacturing expense incurred during the period covered by the statement, others carrying the items in different suspense accounts. The idle time factor is really a volume variation, and clears itself out at the end of the year. Labor variations are usually controllable and really represent a direct manufacturing loss.

Material Price Variances

The handling of material price variances has already been touched upon. There are different methods of taking care of this, but the purchase or price variation is not considered as a part of manufacturing operations by many companies, as this usually reflects market conditions and is beyond the control of the plant executives. The detail methods employed for recording this information will vary according to the particular company's routine for handling invoices and materials.

Finished Stock Inventory

The routine on finished stock inventory will differ according to the company's practice in regard to the handling of its finished stock. This finished stock is priced at standard when manufacturing is completed, and the total labor and burden at standard is calculated and credited to the work in progress labor and burden account, and the materials handled in the same manner, and as a seperate item, if separate material in progress account is kept.

Profit and Loss Statements

With the knowledge that the cost of goods in finished stock is on a definite standard, and with the variations in manufacturing costs known, profit and loss statements of operations are very readily worked out and can be computed monthly or as often as desired, according to the periods covered by the variation reported. The forms of profit and loss statements vary so much in different companies that comment on this subject is hardly in order, but this is only mentioned here in order to indicate the next step, or the final step, in the operation of a standard cost plan.

FAVORS HUMAN AUDIT

A HUMAN audit is desirable; the question, however, resolves itself into the best way of bringing this about, says M. B. Folson, assistant treasurer, Eastman Kodak Co., in Forbes Magazine. This should be one of the prime functions of the industrial relations department of a company. Practically all well-organized corporations now have an industrial relations or personnel department which should, among other things, keep in close touch with employees—their status, their views and feelings—and should keep currently advised of developments in general.

It may be desirable from time to time to have an outside organization expert in a certain activity conduct an audit, and make suggestions. It would be very difficult, however, for an outside agency to come into a large organization to make a complete audit of the whole problem of human relations, and get enough of the background and spirit of the organization so that their recommendations would be of very much value. The best solution is a well-organized industrial relations department which could from time to time call on outside experts to assist them in keeping the organization efficient from the human point of view.

An illustration of this is the inauguration of an annuity, life insurance, and disability benefit plan by the Kodak Company. It had been felt for some time that it would be necessary to have such a plan, and the industrial relations department had brought this to the attention of the management. The management asked the statistical department to suggest a programme. This department made a complete study of the status of the force and of the pension plans which had been adopted by other concerns.

"See here!" said the zealous traffic cop. "Keep on the proper side of the white line."

"What line?" inquired the motorist. "I can't see any white line."

"Well, ain't ye got any imagination?"

"Mama," said the little inquisitive girl, "is the Queen a bad woman?"

Horrified mama reprimanded her youngest, and then enquired, "What made you say that?"

Daughter: "Well, everyone sings God Save the King."

Budgeting Control
and its Relation to Business Forecasting

By F. RICHMOND FLETCHER,
Resident Engineering Partner, Scovell, Wellington & Company, Boston.

(Copyright by Scovell, Wellington & Company. Reprinted by permission.)

SO much has been said and written about budgets and budgetary control that one might think all executives clearly understood the subject and were getting the benefits of budgetary control in their own business.

As a matter of fact we have found that many executives have not seen how to apply the budget idea, and many of them feel that it cannot be practically applied to their own problems.

Rapidly Changing Conditions

According to these executives, for instance, conditions change so rapidly that any budget will be so greatly at variance with the actual results as to be meaningless. Even if there are violent fluctuations, how much more quickly they can be appreciated and changes

MEMBERSHIP CERTIFICATES 1931-32

Membership certificates for 1931-32 will be ready shortly, and one will be sent to each member upon payment of the fee for the current year.

in policies made to correspond (with resultant savings in inventories and production costs), if a budget plan is in operation, and the differences between expectations and actual results are forcibly brought to the attention of the executives each month. Fluctuations are reasons for budgets—not reasons against them.

Important to Make a Start

Moreover, we are often told that the company has not kept sufficient records, and the necessary data for a budget is not available. We usually find, however, that there is much more information available, in the hands of departments or individuals, than the chief executives realize is in existence. In a large number of cases in which we have been employed to install budget plans for our clients, the bulk of the requisite data was already available but was not recognized as such, and no one understood how to bring it together.

Even if the data is not as complete as we would desire, a start can always be made with what there is. The results for the first year will naturally not be as close to expectations as would be the case if the original information were better, but executives are always surprised with the success of this first year even from meagre data,

and each year thereafter the budget becomes more accurate in forecasting results. Perfection the first year is not possible under any circumstances. The important thing is to make a start. Improvement will always follow.

Benefits of Budgetary Control

Properly devised and carried out, budgetary control has these definite benefits, to either a large or a small business:

A. It gives greater assurance of the desired profitable sales, production and financial program.

B. It emphasizes the importance of using costs for current control rather than mere history.

C. It minimizes uneconomical uses of capital, such as:
   1. Undue expansion of plant to meet temporary sales demand.
   2. Inventories out of balance with sales and production requirements.
   3. Unwarranted investment in work-in-process because of lack of proper production control.
   4. Unrecompensed financing of customers through excessive datings or excessive storage.
   5. Irregular use of plant assets on account of uneven sales demand.

D. It reduces waste through:
   1. Study of costs and expenses before actual incurrence.
   2. Assignment of responsibility for expenditures.

E. It indicates the importance of a sound plan of organization.

F. It provides a measuring stick for actual performances; no executive is beyond the good influence of materializing his plans for the coming period, and then checking the results of yesterday's decision with to-day's evidence of profitable results.

Advantages of Professional Guidance

The development of the budget is perhaps the most important single act of the executives during the whole year, and it deserves the greatest assurance of proper preparation. Such assurance is best given when the executives work with a professional organization, the latter having the definite responsibility of supervising the preparation of budgetary standards and properly co-ordinating the whole budget. The professional adviser tackles the problem as a definite job to be done; and, with the co-operation of the company executives, he does it with the minimum of time and effort, for he brings to his work the ability to get results promptly and effectively, on account of his experience with similar work for other companies. Moreover, the professional man brings to bear on the various problems of sales, production, and financing a detached judgment unprejudiced by personal relations with heads of departments and uninfluenced by "what we have always done," and the final decision on budgetary standards is more likely to be fair and accurate.

OUTLINE OF BUDGETARY PROCEDURE

The following outline presents the various matters that call for consideration in the preparation of a budget. With this outline as a foundation, a budget plan can be developed to meet the needs of any industrial organization.

Budgetary Period

The basic procedure in preparing a budget plan includes careful consideration of the length of the budgetary period.

A. The budget should envisage one or more natural periods for the business.

B. The determination of the exact period is largely contingent upon:
   1. The business risk.
   2. The stability of the market.
   3. The methods of production and the length of the process.
   4. The normal selling seasons.
   5. The methods of financing.
   6. The length of the accounting period.
   7. The availability of reliable statistical data regarding past performances.

Minimum Profit Considered Essential

In order to set a definite mark which should at least be equalled in the final adjustment of the budgetary estimates, the basic procedure also includes the determination of the desired profit for the budgetary period. This profit, which is the minimum deemed essential in view of the capital invested and the hazards involved, is based on the following considerations:

A. From point of view of economic conditions:
   1. Minimum or fair return on the investment, at rate of interest obtainable from good marketable securities.
   2. Additional return, or true profit, to provide against hazards of the business and allow for growth.

B. From point of view of financing the business:
   1. Amount of interest to be paid on borrowed capital.
   2. Amount of dividend which it is reasonable to pay to stockholders.
   3. Amount of profit to be left in the business to provide increased working capital.
   4. Amount of profit needed to cover increased cost of future replacements of plant assets and to provide for future expansion.

Volume of Anticipated Sales

With the desired profit in mind, the sales for the budgetary period should be forecast, by:

A. Surveying the general business outlook:
   1. Business cycle changes are of greatest importance in the case of staple goods.
   2. Business cycle changes are of least importance in the case of specialties.

3. In most cases only a relatively small specific allowance need be made in sales estimates for business cycle changes.

B. Analyzing market conditions for the particular industry; and sales history and potential new business for the particular company, by lines of product and by territories:

1. Market analysis is of least importance, and sales history greatest, in the case of staple goods marketed for a long time under continuing policies.
2. Market analysis is of greatest importance in the case of new specialties.
3. Both sales history and market analysis are essential in most cases—a combination of properly interpreting past results and properly evaluating future possibilities in the light of consumer demand and compettiion.

C. Considering proper channels of distribution.

D. Considering possible expansion or contraction of consumer demand in the event of changes in selling prices.

E. Considering the reaction of sales volume to increased advertising, and reaching a decision as to an appropriation for that purpose.

F. Considering the spread of sales throughout the year (affected by seasonal demands, opening of new lines, discontinuance of old lines, etc.).

G. In the light of the above, deciding where the sales effort will best be directed, and estimating the probable volume of total and monthly sales, by lines of product and territories, on the preliminary price basis.

Selling and Administrative Cost

The total and monthly cost of selling and administration for this anticipated volume of sales should then be estimated.

A. In so doing, consideration should be given to these three classes of expenses:

1. Non-variable—such as administrative salaries, rents, etc.
2. Wholly variable—such as commissions, shipping expense, etc.
3. Partially variable (increasing with volume but not in direct ratio, the degree of variability being determinable from experience)—such as salesmen's salaries, travelling expense, advertising, sales promotion expense, branch office expense, etc.

B. The estimated expense should be distributed by lines of product and by territroies, on bases such as:

1. Geographical location.
2. Kinds of products sold.
3. Space occupied.
4. Customers served.
5. Sales effort expended.
6. Net sales.
7. Number of orders.

Production Facilities

In the light of the anticipated volume of sales, a careful study must be made of the following points regarding the production facilities:

A. The maximum capacity of the plant.

B. The minimum volume of production for economical and efficient operation.

C. Maintenance of a reasonably steady rate of production, so as to minimize labour turnover and avoid losses from violent fluctuations in manufacturing operations.

D. The facilities required for scheduling the production to cover the anticipated monthly volume of sales:

1. The sales forecast may exceed the present productive capacity under normal operation.
2. The sales forecast may be less than the present productive capacity under normal operation.
3. The sales forecast may approximate the present productive capacity under normal operation.

E. The balance of the facilities thus used, with an analysis of of over-used or under-used capacity by lines of product.

Production Cost of Anticipated Sales

Upon the basis of the estimated monthly production required to meet the estimated sales volume, it is then necessary to calculate the cost of sales, based on:

A. Material requirements budget (varying with volume):

1. At standard quantities according to bills of material.
2. At standard prices.

B. Labor budget (varying with volume):

1. At standard hours according to job analyses and time studies.
2. At standard rates.

C. Burden budget:

1. At standard amounts:

a. Fixed, with amount per unit varying in inverse ratio to production—e.g., taxes, depreciation, etc.

b. Wholly variable—e.g., inspection, material handling and storage, etc.

c. Partially variable, with variability factor known from experience—e.g., light, heat, etc.

2. At standard rate, representing proper absorption of burden in costs at standard volume of production.

D. Inventories to be carried (at standard cost):

1. Raw materials.
2. Work-in-process.
3. Finished goods.

Preliminary Financial Budget

The next step is to prepare a financial budget showing the estimated changes in loss and gain accounts and balance sheet accounts, thus requiring a consolidation of monthly estimates covering principally:

A. Loss and gain accounts:

1. Sales income.
2. Other income.
3. Cost of sales (standard).
4. Adjustments of standard costs.
5. Selling and administrative costs.
6. Other charges.

B. Balance sheet accounts:

1. Inventories created by production and sales programs.
2. Sales terms, and course of collection of accounts receivable.
3. Purchase terms, and course of payment of accounts payable.
4. Short-term indebtedness required to provide working capital for sales and production programs, and reductions under policy of current liquidation of bank line of credit.
5. Long-term indebtedness or capital stock issue required to finance capital expenditures to increase production facilities for handling the desired volume; and current reduction of long-term indebtedness.
6. Dividend requirements.
7. Balancing item—cash.

Final Budget Plan

The final step is a careful consideration of the inter-relationship of the sales, production and financial budgets, to the end that:

A. The estimated volume of sales will be raised, if necessary, to the amount required to produce the minimum profit considered essential.

B. The volume of sales by lines will be adjusted, in the light of the probable effect of a selling price adjustment upon consumer demand.

C. The volume of sales by lines and the production budget will be brought into accord so as to utilize best the potential productive capacity—the plant capacity—the plant capacity being increased, if necessary, provided financing for this purpose is deemed wise.

D. The final sales and production budgets will be broken down by divisions on a monthly basis, so that every sales or production executive will be able to compare actual results with the standards.

E. The financial budget will be revised to reflect the approved sales, production and financing data, and monthly estimated loss and gain statements and balance sheets will be prepared which can be compared with actual figures.

Basic Procedure in Developing Budget

From the foregoing it will be seen that the development of a comprehensive budget involves the determination of the following factors:

1. The budgetary period.
2. The minimum profit which is considered essential in view of the capital invested and the hazards involved.
3. The volume of sales, both as to quantity and cash value, which may be reasonably anticipated in view of economic conditions existing and sales effort to be put forth.
4. The selling and administrative cost of the anticipated volume of sales.
5. The production cost of the anticipated sales.
6. The additional financing, if any, which will be necessary to execute the anticipated sales and production programs, including the cost of possible additional plant facilities.

To repeat in summary form what has been said in more detail, when these six basic factors have been determined, a tentative budget for the period selected should be prepared, predicated upon the sales, cost and financial estimates included in factors 3 to 6. This budget will show the resultant profit, the amounts available for plant improvements, dividends, etc., and should include a balance sheet as at the end of the budgetary period.

This tentative budget may then be reconsidered in the light of the minimum profit considered essential (factor 2), and a final budget prepared modifying the tentative program as desired, especially in regard to the volume of sales and unit selling prices, so as to give effect to managerial policies determined after careful study of all preliminary budget data. The final budget is then to be broken down into monthly periods so as to permit frequent comparison with actual operating results.

Value of Monthly Comparisons

Such a final budget is, needless to say, nothing more than the well-considered expert opinion of the management and its professional advisers as to what the company's sales, costs and profits ought to be during the budgetary period and what additional financing, if any, will be necessary. Comparison from month to month of actual performance with the budget forecast is, however, one of the most effective methods of administrative control yet devised.

As all heads of departments, superintendents and foremen are consulted in the determination of the basic factors under their control from which the budget is evolved, responsibility for any marked deviations in actual performance from the budget forecast, not caused by unusual and unforeseeable economic conditions, can be logically fixed upon the departments concerned. Knowing this to be so, everyone in the organization is keenly interested in seeing to it that his department, at least, lives up to its program, and a fine spirit of competition and emulation among the various departments is thus developed.

If material deviations of operating results from the budget forecasts develop, revision of the estimates for the remainder of the budgetary period is often necessary. While it is, of course, no easy matter to quickly curtail or expand a production program, if the actual orders received differ from the anticipated sales, a change in factory production orders must be made, or the sales program modified to keep pace with the production program, and the budget revised accordingly.

It is, in fact, the definite charting of these deviations in actual results from those anticipated, made possible by the adoption of the budget plan, that is invaluable to management in fixing responsibility, in measuring efficiency, and in making timely changes in business policies so that an even flow of production may be maintained without the piling up of unnecessary and costly inventories and the uneconomical outlay of capital.

Profit-Making Should be Scientific

This is an age of research. Almost every company large or small takes pride in the fact that it is maintaining an experimental department for the purpose of developing new or improved products and devising better and more economical manufacturing methods. That the labors of the experimental department are often barren of results is seldom regarded as a valid reason for its discontinuance; it is considered to be a worthwhile activity on general principles.

Is not a little research work in connection with profit-making equally worthwhile? After all, the prime purpose of any business enterprise is to earn profits, and plans to this end should be made as scientifically as possible.

From our experience in a wide variety of industries, we are convinced that a budget plan is absolutely necessary for proper managerial control, and that its installation has invariably resulted in many benefits.

NEW MEMBERS

The following are new members of the Society:

Toronto Chapter

Warmingham, G. A., Wm. Hamilton, Ltd., Peterborough, Ont.
Williams, R. K., Sherman Engineering Corp., Toronto.

Hamilton Chapter

Briggs, D. R., The Bell Thread Co., Ltd., Hamilton.

Central Ontario Chapter

Taylor, C. B., Canadian General Rubber Co., Ltd., Galt.

Vancouver Chapter

Baker, E. P., C.A., 510 Hastings St. W., Vancouver.

The Trend of Production Costs

By W. A. McKAGUE,
General Secretary, The Canadian Society of Cost Accountants & Industrial Engineers.

THE concern of the cost man is chiefly with methods of costing, and with the resulting cost figures for his own company. But in the course of this work he develops an interest in the broader movements of costs from the viewpoint of business as a whole, as represented by trends of commodities and wages. Costs for his own company must vary not only through factors peculiar to it, but also through these factors which are determined in the outside world.

In nearly every line of business during the past year, there has been a lowering in cost of materials. This is one of the effects of the widespread reductions in commodity prices. In labor, there have been few cuts in wage rates, but scarcity of employment has made possible a higher degree of efficiency through selection of superior workers. There has also been some downward revision of rates, which is not apparent from the official records.

A series of charts herewith illustrate the general trend of production costs since 1920. The reductions of 1930, which appear to be extending into 1931 also, constitute the most important change since the 1920-21 period. They have been most pronounced in raw materials, but unless raw materials recover sharply, the price movement is likely to extend to manufactured lines more completely than was apparent by the end of 1930.

All the indexes used are percentages of 1913 levels.

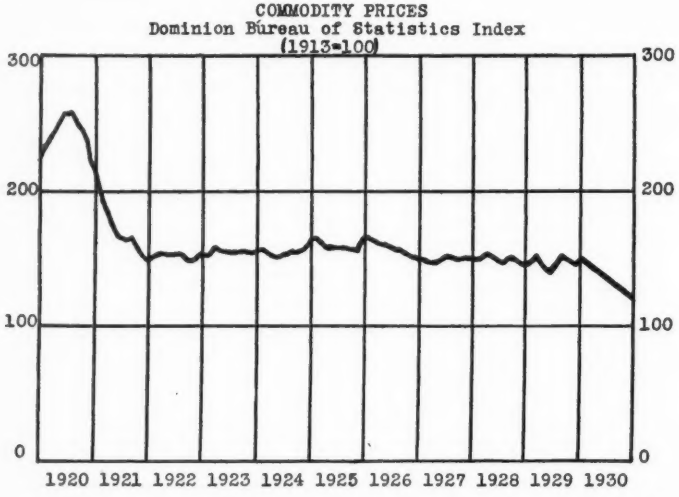
The first chart shows the general trend of commodity prices. It will be seen that the long period 1922-29 inclusive was one of comparative stability. The recent, or current decline, though important, has not yet parallelled that of 1920-21 in its extent or severity. In the earlier period there was a decline in raw materials quite as sharp as during the past year, while excessive stocks of manufactured goods caused these also to drop abruptly. That was a time when war demands ceased, leaving business with the task of finding normal markets. But in the years before 1930 there clearly was no general price inflation. Many commodities, such as sugar and rubber, were at comparatively low figures. Inventories, while perhaps enlarged because of prosperous times, were at least based on peace-time demands. The 1930 decline in prices, therefore, was more moderate, resulting from a shrinkage of demand in comparison with stocks and productive capacity.

The second chart shows trends in the three main factors in economic costs. The line for capital, read by the scale on the right, shows the yield on Canadian government bonds, as indicating the general trend of interest rates in Canada. Of course rates on bank loans in Canada show little variation, since there is no open market for commercial paper here such as exists across the line or in Great Britain. Permanent borrowing for industry, through bond issues or other channels, may even require higher rates as present than would have

been required a year ago, because of the uncertainty of industrial ventures under such conditions as the present. It is true, nevertheless, that well protected bonds of strong corporations are worth more than they were a year ago. In a broad sense, therefore, the cost of capital has declined slightly.

Materials, represented by a price index for producers' goods, have come down sharply. This index is not exactly the same as that for commodity prices in the first chart, being made up of those items which enter into production, but it does include tools and other equipment, as well as raw materials. The decline has been sharper than that in commodity prices as a whole. In fact the average cost is nearly back to that of 1913.

Labor is an exception. Index numbers of wage rates, as compiled by the Canadian Department of Labour at Ottawa, averages 194.4



per cent for 1930, compared with 192.7 per cent for 1929, these being percentages of wage rates of 1913. In only one previous year, 1920, was the level higher.

The third chart shows wage trends in six industries. In all of these excepting steam railways, wages averaged higher in 1930 than in the previous year. In the building trades they reached the highest level on record, being about double the pre-war, and well above 1920 wages. In the printing trades, and electric railways, wages also went higher than ever before. Coal mining and the metal trades are below 1920, but moved slightly upward in 1930.

The fourth chart shows producers' goods divided into equipment and materials. Equipment is stable, prices or rates being fixed by manufacturers, but a downward trend appeared in 1930. With equip-

ment separated, the downward drop in raw materials now is more clearly revealed, amounting to about 25 per cent for the year.

The fifth chart shows producers' equipment divided into three sub-groups, viz., tools, light, heat and power, and miscellaneous. In all three there were declines.

The sixth chart shows producers' materials divided into two main divisions, viz., materials for building and construction, and materials for manufacturers. The latter show the more extreme fluctuations. Of course most of the materials for the building trade are themselves manufactured products, such as lumber, bricks, and cement, and the items of labor and overhead therefore tend to keep them firm.

The seventh chart shows materials for building, divided into lumber, painters' materials, and miscellaneous. These sub-groups all declined. Painters' materials went down by more than 25 per cent.

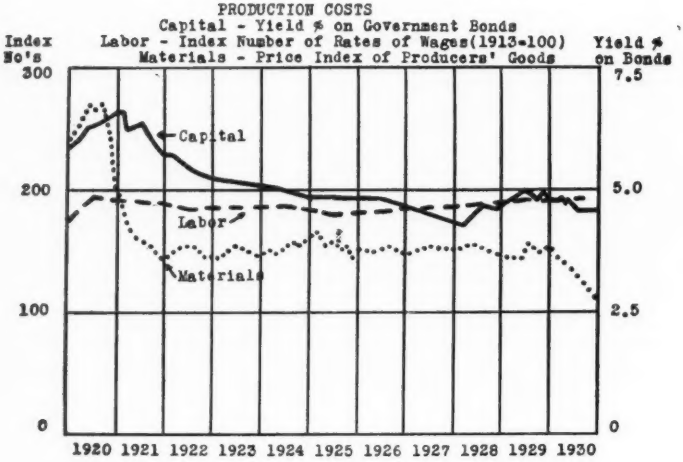
In the last two charts several important groups of raw materials for manufacturing are shown. Furs moved down by about 35 per cent, after being high for some years. Declines in grains of course govern the index of materials for milling. Declines in the other groups were less extreme.

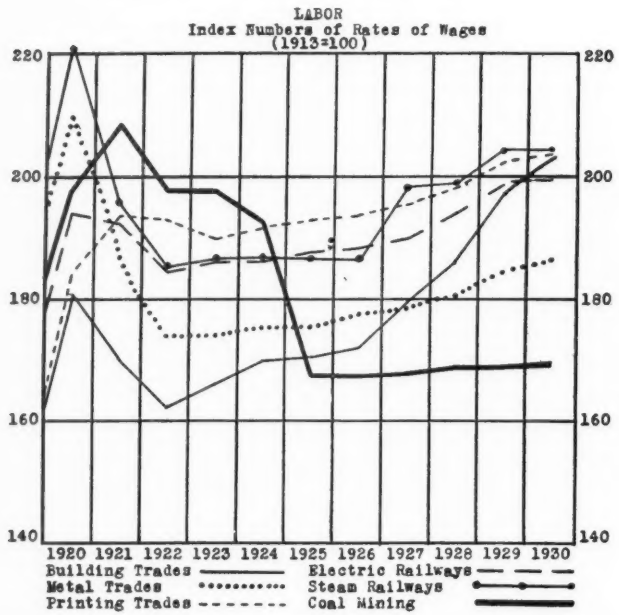
Commodity prices declined by 1.1 per cent in January. The Dominion Bureau of Statistics index number, with 1926 as the base period, was 77.8 for December, and 76.7 for January. The main groups compare as follows:

	Jan. 1930	Dec. 1930	Jan. 1931
Foods, beverages and tobacco	103.7	80.9	80.0
Other consumers' goods	89.8	84.6	82.9
All consumers' goods	95.4	83.1	81.7
Producers' equipment	96.2	91.5	91.5
Building and construction materials	97.3	85.0	84.1
Manufacturers' materials	93.8	65.7	64.5
All producers' materials	94.4	69.2	68.0
All producers' goods	94.6	71.6	70.4
All commodities	95.4	77.8	76.7

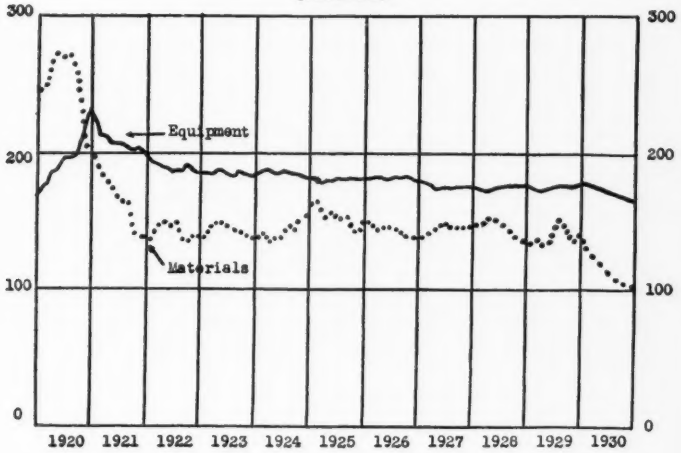
The most important reductions in January were in the following: Foreign fresh fruits, vegetable oils, rubber products, hides and skins, fats, eggs, cotton yarn and thread, silk fabrics, wool blankets, copper products, lead, silver, glass, and coal tar products. The most important advances were in the following: Dried fruits, flax, hemp and jute products, and salt.

There were six strikes and lockouts in Canada in January, compared with eight in December. Two disputes had been carried over from December, and four commenced in January. Four of these disputes were terminated during the month, three of them in favor of employers and one partly in favor of employees. This left the following two still in effect at the close of January: Coal miners at Shaughnessy, Alta., and pile drivers, bridge builders and hoisting engineers at Vancouver.

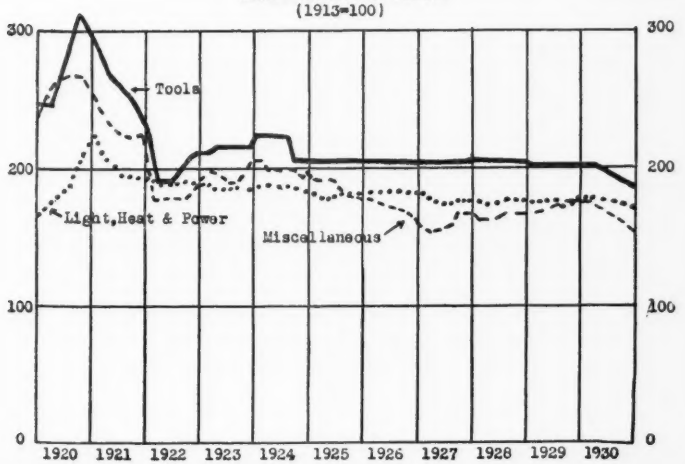

PRODUCTION COSTS
Capital - Yield % on Government Bonds
Labor - Index Number of Rates of Wages(1913=100)
Materials - Price Index of Producers' Goods
Index No's
Yield % on Bonds
300
200
100
0
7.5
5.0
2.5
0
Capital
Labor
Materials
1920 1921 1922 1923 1924 1925 1926 1927 1928 1929 1930


LABOR
Index Numbers of Rates of Wages
(1913=100)
220
200
180
160
140
1920 1921 1922 1923 1924 1925 1926 1927 1928 1929 1930
Building Trades
Metal Trades
Printing Trades
Electric Railways
Steam Railways
Coal Mining

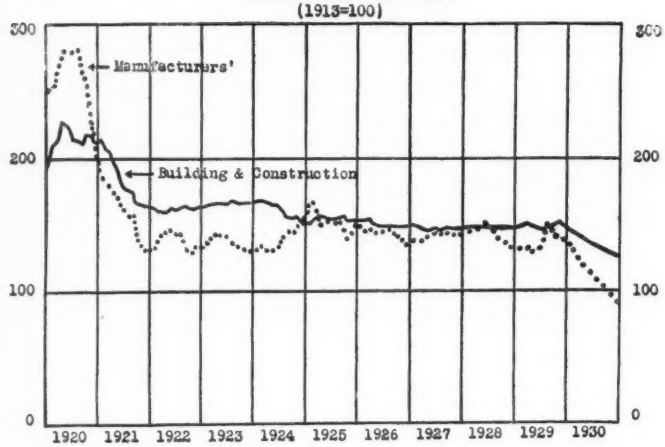
PRODUCERS' GOODS
Index Numbers of Prices
(1913=100)



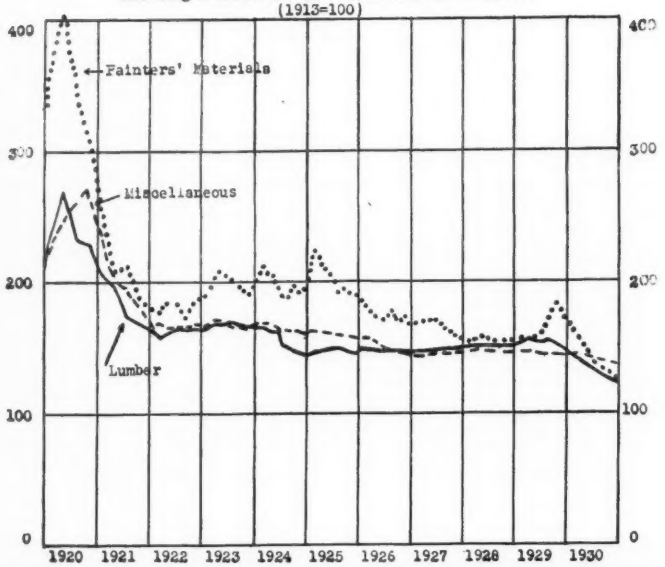
PRODUCERS' EQUIPMENT
Index Numbers of Prices
(1913=100)



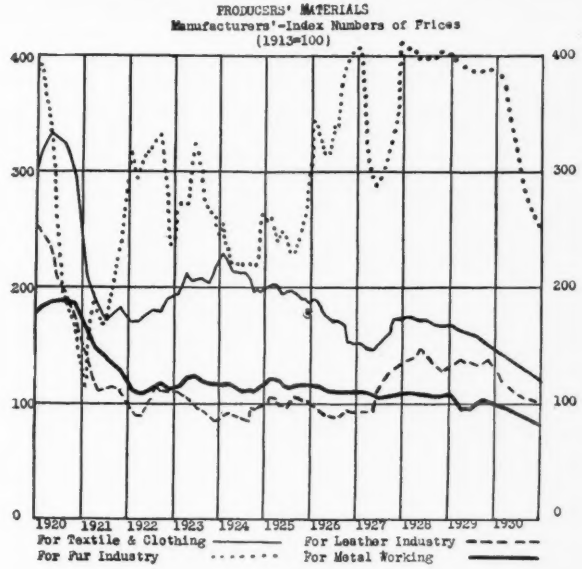
PRODUCERS' MATERIALS
Index Numbers of Prices
(1913=100)

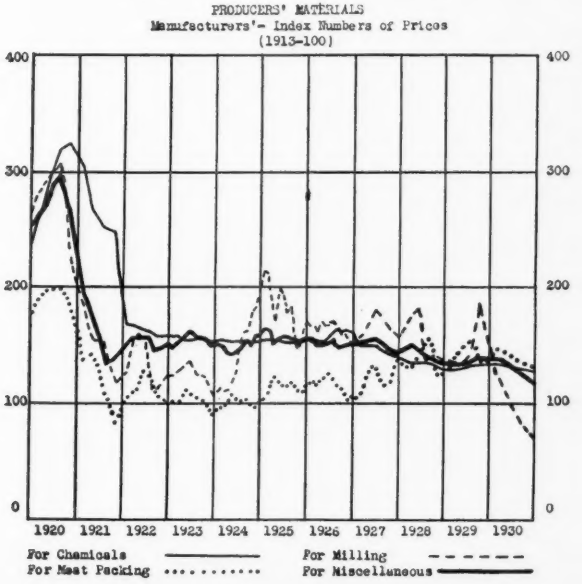


PRODUCERS' MATERIALS
Building & Construction- Index Numbers of Prices
(1913=100)



THE TREND OF PRODUCTION COSTS





BUDGETARY CONTROL IS BUSINESS NEED

BUDGETARY control was advocated as a means of taking the risk out of business and making enterprise safe and profitable, by John C. Kirkwood, of Toronto, editor of the advertising publication "Marketing," who spoke at a meeting of the Advertising Club in Montreal recently. Business nowadays could not be run on the "hit-or-miss" principle as in the past, but had to be conducted on logical lines, with scientific planning toward a definite objective of a satisfactory net profit, he said.

Business concerns failed frequently because they had not planned for the future, but had gone ahead haphazardly without knowing definitely where they were going, he began. Such conduct, which he characterized as "a business crime" was due to incompetent directorship, the cause of the majority of business failures. Fortunately, business was being rationalized to-day and always knows where it is going, forecasting the sales at the beginning of the year, figuring out in advance the net profit requirements, and governing itself accordingly, said the speaker.

Under the budgetary system, the managers of a concern gather in council to decide on the sales objective at the beginning of each year. Then each one, the advertising, production and sales managers calculate the budget for their department, figure out exactly how much money they will need for their work in order to meet the demands of the objective decided upon. In bringing down the total sales budget it must be kept in mind that business exists for net profit and this, therefore, must make up a reasonable amount of the total sales objective he added.

Another method used for charting a channel along which a business might proceed with safety, was a system of calculating future possibilities by considering the financial and operating ratios. For every kind of business there was a definite ratio between the fixed assets and sales, and between quick assets and liabilities, and by calculating this ratio, it was possible to figure out the profit and loss statement a year in advance, Mr. Kirkwood remarked.

Business at the present time knew where it was going, and did not fear for periods of calm or tempest in the future, he continued. There was no more speculation or gambling, and there was an excess of propulsive power enabling a business to proceed with safety.

Mr. Kirkwood believed that there was a great future for the industrial engineer, or "business physician" who was needed in every large business, he said. It was a profession not overcrowded, paying good salaries, and rendering valuable services, he concluded.

"I suppose," said he, hesitatingly, "that it would be useless to ask you to be my wife?"

"Indeed it would," she unhesitatingly replied, "if that is your style of going about it."

CHAPTER NOTES

MONTREAL

H. W. Blunt, C.A., Secretary

Of the retail sales made on this continent, and amounting to some $45,000,000,000, the department stores are responsible for $7,000,000,000 stated A. E. Walford, C.A., L.I.A., Secretary-Treasurer of Jas. O. Ogilvy's Limited, at a meeting of Montreal Chapter held on Thursday evening, December fifth. Mr. Walford spoke on "Costs and Distribution of Overhead in a Department Store," and by means of illustrations taken from this business he gave a comprehensive view of a very intricate development of the modern business world.

Among the outstanding characteristics of a typical department store which he mentioned, were central location, convenience to the customer and the application, to a marked degree, of the principle of division of labour. He also pointed out that this method of consumer distribution is the largest consistent advertiser of any class of retailer.

When the expenditure of a department store is analyzed he continued, it should be grouped under the two broad headings of Merchandise Cost and Operating Expense. While the distribution of Merchandise Cost is a comparatively simple matter that of distributing Operating Expense presents more serious difficulties. These may be overcome to some extent, however, by a further analysis of this division under the headings of Administration, Occupancy, Publicity, Buying and Selling when preparing the General Operating Statement.

The next problem encountered is to ascertain the proper basis for the distribution of Expense to selling departments. Here one discovers as great a divergence of opinion among accountants as are found methods in practice. While undoubtedly each method possesses particular merits of its own, none have proved entirely satisfactory. Usually the most accurate distribution of expense is effected by using several bases for the purpose. Using this method one would distribute the cost of displaying merchandise in show windows on the basis of the value of the display units, occupancy costs on the value of the floor space, cost of executive functions on net sales and the remaining expenses on similar appropriate bases.

That it is essential to charge expenses as equitably and as directly as possible against departments is a much debated question. Some accountants maintain that the merchant's narrow margin of profit and the increasing growth of profit sharing contracts with department managers demand a sound basis of cost finding. They also assert that only when department managers become "net profit conscious" do they appreciate the final effect of the operations of their department. On the other hand it is alleged with some degree of truth, that departments are operated primarily as co-operative units and that the burdens of the weaker departments should be shared by the stronger.

Moreover, department managers have no means of controlling or even materially modifying much of the overhead expense charged to their departments. Weighty arguments as these are against accurate distribution of overhead expense, one can hardly feel that they are entirely convincing.

Significant among recent developments which profoundly affect the method and scope of expense analysis and distribution is a tremendous revival of interest in economy. Modern improvements in Budgetary Control and research methods, too, are rapidly modifying the attitude of executives towards masses of detailed figures presented in identical form at frequent intervals.

No doubt accountants, generally, are not aware of the narrow margin of profit under which the average merchant operates, and the strict necessity for effective control of expenditure. In the 1929 summary report issued by the Harvard Bureau of Business Research, it is shown that the average net profit of department stores having a volume of over two million dollars annually, amounted to 8/10 of 1% of the sales. A further examination reveals that if only stores earning over 2½% profit are taken into consideration, an average profit of 3.8% is obtained. In other words, a decline in merchandising efficiency of 5%, or an increase in expense of 12½% would wipe out net profits in this group entirely.

These illustrations serve to show that the average management earns a very narrow but consistent profit. In every type of business outstanding management reaps its own reward, but in no field is the value of management more definitely shown than in merchandising.

A heary vote of thanks endorsed unanimously by all present, was moved to Mr. Walford for his splendid address. Considerable discussion prior to the address resulted from consideration of the two problems:

(1) Is the theory of contribution to General Overhead a sound basis for judgment of the value of a department?

(2) Which is the better approach to Cost reduction: the Accounting or the Engineering viewpoint?

Among those members taking part in this discussion were observed L. Rhodes, P. E. Dufresne, J. P. Masterson, L. Belanger and D. R. Patton. The meeting was presided over by George T. Bowden, Montreal Chapter's efficient chairman.

CENTRAL ONTARIO

C. J. Heimrich, L.A., Secretary-Treasurer

Our Chapter retrieved itself from the lowly position relegated to us by the poor attendance at the December meeting, by turning out twenty-eight strong, members and friends, for the January meeting held January 15th, at the office of The Kaufman Rubber Co., to hear Mr. J. W. Spence of The Canadian Kodak Co., Toronto. The moral is obvious. Our members apparently respond more readily to out-of-town speakers.

Before calling on the speaker, our chairman, Mr. Tailby, called the attention of the members to the unfortunate accident which befell our President, Mr. LeBrocq, during the Yule-tide holidays. A motion expressing the sympathy of our chapter and hopes for a rapid and complete recovery was passed, which the secretary was instructed to inscribe into the minutes and convey to Mr. LeBrocq.

Mr. Tailby also made the encouraging announcement that four new applications for membership in our Chapter had been received, which were passed unanimously. Since that time another one has been received, making the fifth this year, a pace we would like, but can hardly hope to maintain.

In his address on "Labor in Relation to Cost of Manufacture," Mr. Spence took as a basis the welfare plan in operation at The Kodak Company, which provides a Retirement Annuity, Life Insurance and Disability Benefits, pointing out the benefits which accrue to both the employees and the employer from a carefully administered plan of this nature. The benefits which the employee receives naturally stimulate effort and the investment which he accumulates throughout his years of service is an incentive to him to maintain his association with the company, thus lessening labor turnover, and the attendant costs, to a minimum, in which sense the company is the beneficiary.

The plan described by the speaker has many unusual features, not usually embodied in such schemes, and there can be no question of the benefits derived by this or any other company able to put it into operation.

Mr. Spence's address was received with much interest, and there was considerable discussion and questioning at the conclusion of it, several of those present becoming so interested as to conjecture on the possibility of becoming associated with Mr. Spence and participating in the benefits.

A vote of thanks to Mr. Spence for his address and to The Kaufman Rubber Co. for their courtesy in allowing us to use their offices, was passed at the close of the discussion.

Among those present were Mr. A. E. Hatt and Mr. D. Thompson from New York, and several from Guelph and Galt.

The Globe Furniture Co., Waterloo, Ont., was the scene of our February meeting, held Thursday, February 12th. Here, amid saintly statues and church accoutrements, stately pulpits and imposing chancels, we heard Mr. R. E. Love of the Hoover Co., Hamilton, deliver his much looked-forward-to address on "Standard Costs." And incidentally Mr. Love and his topic proved to be a good combination, being a magnet that attracted about thirty members and visitors.

The question of Standard Costs is one that we are always seeking enlightenment on, and Mr. Love presented the subject in a way that added to the knowledge of all of us. Dealing first with the requirements of a standard cost system, he explained there must be a common working ground to know what to expect. We must have a basis to work upon, three alternatives being given:

1. As nearly accurate as possible.
2. As near normal as possible.
3. As near capacity of plant as possible, or the ideal cost.

Some of the principal reasons given for standards were:

1. It places emphasis on cost performance.
2. It gives live, up-to-date data to the management.
3. Makes it possible to note inefficiencies, or leaks, more quickly.
4. Enables management receiving figures promptly and effect necessary changes.
5. Enables differences being spotted promptly.
6. Furnishes a check on the purchasing department.
7. Easier to operate.

In handling the standard costs on the general books, the speaker favored the idea of the cost records being an integral part of the financial books, through the use of records designed to show the variances in purchases, labor, etc., illustrating by samples the methods and some of the forms used by his company in this connection.

Contrary to the opinion held by many, and he admitted, by himself before the adoption of the system by his company, standard costs do not involve extra labor and more time to operate; in their own case both time and labor were reduced, and the cost reports were ready for the management about a week earlier than previously.

There were many other details explained by the speaker, which it is regretted it is not possible to record more fully in these minutes. Suffice it to say it was most thorough, and was received with much interest, as was proven by the discussion which followed.

A feature of the discussion was a paper by Mr. Earnshaw, which he stated was not to be attributed to him, but which he read with such conviction that it may no doubt be assumed to reflect his own views as well as those of the writer of it.

Mr. McKague, the General Secretary, was a visitor, and spoke briefly on the change in dues effective April 1st.

Before the chairman pronounced the benediction, a hearty vote of thanks was tendered to Mr. Love, and also to The Globe Furniture Co.

Of course it was in ante-prohibition days when this insurance man, coming home late from the annual dinner of his local board with a happy jag, was confronted by his waiting wife and her caustic remark, "Drunk again." "Hooray, m'dear," he hilariously replied, "zo'm I."

"I'd have you know," said the excited agent in an abusive discussion with a competitor, "I'd have you know that I am a self-made man."

"All right," coolly replied the other, "I accept your apology."

She: "Why the big laugh?"
He: "Chap just turned a corner."
"Well?"
"There wasn't one!"

COST LITERATURE

RECEIVED IN FEBRUARY

ACCOUNTING for By-Products, Co-Products and Joint Products. J. A. White. Journal of Accountancy, February, 1931.

Joint Costs. F. W. Thornton. Journal of Accountancy. February, 1931.

Cost Accounting and Why. L. I. Houghton, C.P.A. National Association of Cost Accountants, February 15, 1931.

Answers to Weaknesses in Standard Costs. National Association of Cost Accountants, February, 15, 1931.

Accounting Methods in a Clock Company. National Association of Cost Accountants, February 15, 1931.

Inventory Accounting and Control for the Dyeing Industry. C. E. Salb. National Association of Cost Accountants, February 1, 1931.

Cost Accounting and Management in Soviet Russia. National Association of Cost Accountants, February 1, 1931.

Organization for Cost Reduction. W. Baum. Society of Industrial Engineers bulletin, December, 1930.

Modern Aspects of Labor Management. W. Rautenstrauch. Society of Industrial Engineers bulletin, December, 1930.

Accounting for Current Depreciation. P. Mason. Indian Accountant, January, 1931.

Stabilizing Production and Employment. Dr. B. M. Squires. Society of Industrial Engineers bulletin, January, 1931.

Compiling Maintenance Costs. H. L. Bode. Society of Industrial Engineers bulletin, 1931.

Record of Depreciation in Accounts and for Costing Purposes. P. D. Leake, F.C.A. Cost Accountant, January, 1931.

Costing in the Chemical Industry. L. Staniforth, A.C.W.A. Cost Accountant, January, 1931.

Practical Application of Financial and Statistical Information to Planning Operations and Forecasting Financial Results. The Accountant, January 10, 1931.

Record of Depreciation in Accounts and for Costing Purposes. P. D. Leake, F.C.A. The Accountant, January 24, 1931.

Valuation of 1930 Inventories for Purposes of Taxation. W. A. Staub, C.P.A. American Accountant, February, 1931.

Inventory Valuation for Fire Insurance Recovery—The Month's Proposition. American Accountant, February, 1931.

A PROGRAM OF RECONSTRUCTION

AFTER reviewing the spoils of a year fraught with the most devastating price competition in the history of their industry, rubber and tire leaders went into executive huddle at the annual business session and banquet of the Rubber Manufacturers Association in New York January 5th, and emerged from it committed to a program of reconstruction, saner competition, closer co-operation, and common sense administration of the rubber and tire business as a whole.

"If the *will* is here to correct the evils which have existed, there is in our industry ample ability, energy and integrity to construct a sound foundation and to rear a superstructure—a credit to the industry for all time. And I believe the *will* exists," declared Samuel Woolner, president. "Nineteen thirty was a bad year. The worst feature of it was the price war on national and commercial accounts, with discounts ranging from two 'tens' to eight 'tens' plus a five. There was not one intelligent, constructive effort made to help the industry in 1930. Sixty-five per cent of the 1930 output of our industry was sold at too low a price, leaving thirty-five per cent to carry the load. We are on the way to sale of all our product at cost, unless we mend our ways. It is a sorry plight for a billion dollar industry. The rubber industry needs and must have a new foundation. We must re-vamp it completely. Its leaders must co-ordinate and co-operate. We must think of our business in terms of its stockholders, forget petty jealousies and work together constructively. Many say we need a czar or dictator. I do not think so."

Harvey S. Firestone said in part:—

"The rubber industry is a great industry but we do not realize it. It has grown more rapidly than any industry. All progress brings difficulties, especially such rapid growth as our industry has experienced. We have had terrific fluctuations in the costs of raw materials —rubber and cotton principally—and these largely have caused the major part of our troubles. No other industry has had such fluctuations in the costs of its basic materials.

"As a result manufacturers have had to become merchants themselves. Price cuts have followed competitive fights. We must and will have sanner competition. Prices are down now to the very bottom. We must co-operate more; we must believe rumors less; get together and boost our own industry. Nineteen thirty-one offers our industry tremendous opportunities for increased sales and profits."

AN INTERNATIONAL CONTEST

The London Morning Post told the following story of the essay about the elephant:

A prize was to be given for an essay on the elephant, the contestants being an Englishman, a Frenchman, and an Italian. The Englishman went to study the elephant in Africa; the Frenchman visited the Jardin Zo-ologique, and wrote an essay on "L'Elephant et l'amour"; the Italian sat down and wrote one on "The Elephant in Relation to the Adriatic Question."